<div align="center">**REMARKS**</div>

Claims 1-8 and 24-31 are pending in the application (claims 9-23 were canceled in Applicants' response of 13 October 2006 to a restriction requirement mailed 29 September 2006). All pending claims stand rejected, Applicants' previously-presented arguments having been deemed unpersuasive. In this Response, Applicants seek to clarify their position in connection with the present Request for Continued Examination; the Examiner is respectfully invited to contact Applicants' counsel to discuss any points that are not adequately addressed. In addition, new claims 32-35 are presented that are thought to clearly distinguish embodiments of the invention from the prior art of record.

I.   Claims Rejected Under 35 U.S.C. § 102(b)

The Examiner rejected claims 1, 2, 8, 24 and 30 under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 6,055,604 issued to Voigt *et al.* ("*Voigt*"). However, Applicants maintain that *Voigt* fails to disclose each and every element of the claimed invention, arranged as recited in the claim, and consequently the rejections should be withdrawn.

The instant application and the reference of record concern different aspects of storage server logging operations. *Voigt* teaches improving performance by posting partially-filled log pages to the least busy of a group of disks, while Applicants' invention relates to the content and format of individual entries in a log, where the entries themselves pertain to a particular occurrence in a storage server. In short, *Voigt* is concerned with *where* and *when* to store log entries, while Applicants' invention is concerned with *what* to record in the log, and *how* to format it. Since *Voigt*'s log entries' contents are not the central focus of his invention, one must infer the contents from various indirect statements in *Voigt*. This process demands care and attention to detail, but Applicants respectfully submit that if *Voigt* is read carefully and attentively, it

becomes evident that the log entries in *Voigt* are different from the log entries described and claimed in the present application.

Claim 1 recites a method comprising maintaining a log of a plurality of requests in a storage server, each of the requests corresponding to a write operation to be performed by the storage server on a set of storage devices, the log including a separate log entry for each request. (The claim also requires that each log entry include a separate checksum, but as the Examiner notes, *Voigt*'s Figure 7 shows a log entry with a checksum at element 135.) The critical question to determining the patentability of claim 1 in view of the references of record is "to what do *Voigt*'s log entries correspond?"

Referring to *Voigt*'s Figure 7, a log entry containing several fields is depicted. The length, sequence number, disk set identifier, and checksum fields do not give any indication of what the entry describes or memorializes (although the sequence number will be discussed further below). The "body" field is merely described as "holding the actual log data being stored" (*see* 8:25-26). One must search earlier material to discover that the actual log data is "memory map log records" (*see* 4:45), which contain "recently changed [disk array] mapping information" (*see* 1:41-42). This is apparently information that the system maintains to help recover data from the disks in the event of an error (*see, e.g.,* 1:35-42). The mapping information seems to be unrelated to the claimed requests corresponding to write operations to be performed by the storage server –*Voigt* does not discuss such write requests at all. Of course, *Voigt*'s system is a data storage server, so it probably does receive requests to write data. However, these requests (and whatever processing they cause) are not apparently connected with the log records *Voigt* processes and stores.

Because claim 1 and the reference discuss processing of different types of log records, and because the difference between the types of records is captured in the claim language, Applicants respectfully request that the Examiner withdraw the rejection of claim 1.

Claim 2 depends upon claim 1, and is believed to be patentable for at least the reasons discussed above. Applicants respectfully request that the rejections of this claim be withdrawn also.

Claim 8 also depends upon claim 1, but includes a limitation requiring that an entry count be maintained in the log to indicate the number of log entries in the log. The Examiner points to *Voigt*'s sequence number that is sequentially incremented for each new record as the claimed "count." Applicants agree that, during the limited period when all the log records that have ever been created are still stored in the RAM log image ("RLI"), the sequence number is equal to the count. However, *Voigt* writes log entries to disk, overwriting older log entries. As soon as this happens, the sequence number is no longer equal to the count, because the earliest log entries are no longer available. A simple example illuminates Applicants' point: consider a circular log buffer that can hold 100 entries. Entries with sequence numbers 1 through 100 are stored, and the highest sequence number (100) is equal to the number of log entries. However, when log entry 101 is stored, it overwrites log entry 1, so the sequence number is no longer valid as a count of entries. Without knowledge of the lowest valid sequence number, one cannot say how many entries are in the log. Since *Voigt* stores sequence numbers but no "lowest valid" number, it fails to anticipate claim 8, which requires a *count* of the log entries. Applicants respectfully request that the Examiner withdraw the rejection of claim 8.

Independent claim 24 is rejected as anticipated by *Voigt* using the same rationale as applied to claim 1. However, as explained above, *Voigt*'s log entries are different from the entries maintained by the system recited in claim 24 – they correspond to and memorialize different things. Therefore, the claimed system is believed to be patentable over the reference. Applicants respectfully request that the rejection of claim 24 be withdrawn.

Claim 30 depends upon claim 24, and should be patentable for at least the foregoing reasons. The Examiner is respectfully requested to withdraw this rejection as well.

II.   Claims Rejected Under 35 U.S.C. § 103(a)

The Examiner rejected claims 3-7 and 25-29 under 35 U.S.C. § 103(a) as unpatentable over *Voigt* (*supra*) in view of U.S. Patent No. 6,880,149 issued to Cronce ("*Cronce*"). The secondary reference is relied upon only for its alleged teaching of limitations related to checksum selection and operation as recited in some of these claims. Applicants have carefully reviewed the cited portions of *Cronce*, and the reference more generally, but even assuming (solely for the sake of argument) that it teaches or suggests what the Examiner asserts, and that an anti-piracy technology for detecting software code modifications could properly be combined with *Voigt*'s efficient method for storing a fileserver transaction log, the references still lack the points discussed in the preceding sections.

Consequently, claims 3-7 (which depend directly or indirectly upon claim 1), and 25-28 (claim 24) are believed to be patentable for at least the reasons cited in support of their base claims. Applicants respectfully request that the Examiner withdraw the rejections of claims 3-7 and 25-29.

The Examiner rejected claim 31 under 35 U.S.C. § 103(a) as unpatentable over *Voigt* for notorious obviousness. However, regardless of the obviousness (or not) of providing network access to a storage server, claim 31 depends upon claim 24 and is believed to be patentable to the same extent as that base claim. Applicants respectfully request that the Examiner withdraw this rejection also.

III.   New Claims

Applicants present new claims 32-35, expressing another method according to an embodiment of the invention. Support for the new claims is at [0028], [0033]-[0034], Figures 1 and 5, and elsewhere; no new matter is added. New independent claim 32 is believed to clearly highlight the differences

between the invention and the prior art of record, along the lines discussed above. In particular, the method affirmatively requires receiving a plurality of storage requests from at least one client and preparing a plurality of log entries, each log entry of the plurality of log entries corresponding to one storage request of the plurality of storage requests. As explained in reference to claim 1, *Voigt*'s log entries correspond to recently-changed disk mapping information, not to storage requests received from at least one client.

Regarding new claim 33, a count of log entries is required to be kept in a log header. This claim is patentable for the reasons discussed above in support of claim 8 (*i.e.*, *Voigt* does not keep a <u>count</u> of entries, only a <u>sequence number</u> in each entry), and also by virtue of its dependence on new claim 32.

Claim 34 recites an entirely new sequence of operations, not yet considered by the Examiner, which are described in paragraphs [0033] and [0034], and for which Applicants have found no counterparts in the references of record.

Finally, claim 35 recites some additional features of the log header of claim 33. These features are discussed in [0028] and shown in Figures 1 and 5. Claim 35 is believed to be patentable both because these features are not present in the references of record and because claim 35 depends upon claim 33 and ultimately upon claim 32, which are themselves distinguishable from the references. Applicants respectfully request that the Examiner allow new claims 33-35.

CONCLUSION

In view of the foregoing, it is believed that all claims now pending, namely claims 1-8 and 24-35, patentably define the subject invention over the prior art of record, and are in condition for allowance. Such action is earnestly solicited at the earliest possible date. Applicants would appreciate an opportunity to discuss the subsequent prosecution of this application by telephone after the Examiner has reviewed this Response, and before a first Office Action is prepared. **The Examiner is respectfully requested to contact the undersigned at (503)439-8778, extension 7698, to schedule an interview at a convenient time.**

Respectfully submitted,
BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN, LLP

Dated: <u>July 13, 2007</u>   /GREGORY D. CALDWEL/

Gregory D. Caldwell, Reg. No.: 39,926

1279 Oakmead Parkway
Sunnyvale, CA 94085-4040
503-439-8778